Amendments to the Claims

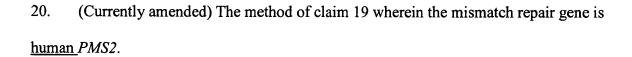
(Currently amended) A method for making a hypermutable cell, comprising the step of: introducing into a plant cell a polynucleotide comprising a dominant negative allele of a 1. mammalian PMS2 mismatch repair gene, whereby the cell becomes hypermutable.



- (Original) The method of claim 1 wherein the polynucleotide is introduced by 2. transfection of a suspension of plant cells in vitro.
 - (Withdrawn) 3-4.
 - (Currently amended) The method of claim 1 wherein the mismatch repair gene is a 5. mammalian human PMS2.
 - 6-14. (Withdrawn)
 - (Currently amended) The method of claim 5 1 where the allele comprises a truncation 15. mutation.
 - (Original) The method of claim $\frac{15}{5}$ wherein the allele comprises a truncation mutation at codon 134.
 - (Currently amended) The method of claim 16 15 wherein said allele is a human <u>PMS2</u>, and wherein the truncation mutation is due to a thymidine at nucleotide 424 of wild-17.

type human PMS2.

- 18. (Currently amended) The method of claim 1 wherein the polynucleotide is introduced into a plant cell of a plant seedling in a plant to form a transgenic plant.
- 19. (Currently amended) The method of claim 18 further comprising: growing the transgenic said plant seedling into to form a mature transgenic plant.



21. (Canceled)

22-30. (Withdrawn)

- 31. (Original) The method of claim 20 wherein the allele comprises a truncation mutation.
- 32. (Original) The method of claim 20 wherein the allele comprises a truncation mutation at codon 134.
- 33. (Currently amended) The method of claim 20 wherein <u>said human PMS2 comprises a</u> the truncation <u>mutation is due to</u> a thymidine at nucleotide 424 of wild-type <u>hPMS2 human</u>

<u>PMS2</u>.

34. (Currently amended) A homogeneous composition of cultured, hypermutable, plant cells which comprise a dominant negative allele of a <u>mammalian PMS2</u> mismatch repair gene.

35. (Currently amended) The homogeneous composition of claim 34 wherein the mismatch repair gene is a human *PMS2*.

36. (Canceled)

37-45. (Withdrawn)

- 46. (Currently amended) The homogeneous composition of claim 34 wherein the cells express a protein consisting of the first 133 amino acids of hPMS2 human PMS2.
- 47. (Currently amended) A hypermutable transgenic plant wherein at least 50% of the cells of the plant comprise a dominant negative allele of a <u>mammalian PMS2</u> mismatch repair gene.

48-55. (Withdrawn)

56. (Currently amended) The hypermutable transgenic plant of claim 47 eomprising a protein which consists of wherein said dominant negative allele encodes the first 133 amino acids of human PMS2 PMS2.

57-76. (Withdrawn)

77. (Currently amended) A hypermutable transgenic plant made by the method of claim 67 19.

78. (Canceled)

79. (Original) The hypermutable transgenic plant of claim 77 wherein the mismatch repair gene is human *PMS2*.

80-82. (Withdrawn)

- 83. (Original) The hypermutable transgenic plant of claim 77 wherein the allele comprises a truncation mutation.
 - 84. (Original) The hypermutable transgenic plant of claim 77 79 wherein the allele comprises a truncation mutation at codon 134.
 - 85. (Currently amended) The hypermutable transgenic plant of claim 83 79 wherein said

human PMS2 comprises a the truncation mutation due to is a thymidine at nucleotide 424 of

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86-125. (Withdrawn)

wild-type <u>human</u> PMS2.